

Figure 1: Protein alignment of Rho small GTPases from *Oryza sativa* cv. Noppon-Brarre (a japonica rice), *Brassica napus* cv. "AC Excel" "Quantum" and "Cresor" (canola), and *Glycine max* cv. Resuick (soybean). Boxes (dotted line) represent the identical amino acid.

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| BN41992996 | (1) | -----MSASRFE[GTVGDGAVG[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| BN42135991 | (1) | -----MSASRFE[GTVGDGAVG[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| BN42385898 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| BN42519337 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| BN42557868 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| BN43381801 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| BN44062474 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| BN44504217 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| BN45412825 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| GM47124407 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| GM47172047 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| GM48914268 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| GM49741326 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| GM50199916 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| GM50693528 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| GM52260563 | (1) | -----MSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| OS30848846 | (1) | -----MSGATKFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYNGATVNVLGLWDTAGQEDYNR[R] |
| OS32558796 | (1) | -----MGCSSVPARSTGGIINNISNDNSATDSKDLRAI[LIGDSGIGQDPTSKVTF[GASFLSQTIALEDSTIVKFEIWDTAGQERYAA[A] |
| OS333960403 | (1) | -----MASSASRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYDGTTVNVLGLWDTAGQEDYNR[R] |
| OS35505384 | (1) | -----MGSKPPPPQPSVSRIT[LIGDGRGCTSLIVRLYNDV[SDQEAT[QASYLTKR-LVYEGVPLTSLWDTAGQEKFA[GI |
| OS37807380 | (1) | -----MSSAAAATRFE[GTVGDGA[GTCM LISYSNT[PDTYVPT/FDNFSAN--VVYDGSSVNVNLGLWDTAGQEDYSR[GI |
| YNL090W | (1) | -----MSEKAVRKKRIT[LIGDGA[GTCM LISYSNT[PDTYVPT/FENYVTD--CRVDGIKVSLT[LWDTAGQEEYER[ER |

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| BN41992996 | (74) \$RG DVFLAFLSLISKA\$YENVSKKWIPELTHYAPGVPIVLVGTL | DIRDD-KOFFVDHPGAVPITTAQGBEUMKLIGAPSYLECSSLSSKQENVKGVIDA |
| BN42135991 | (74) \$RG DVFLAFLSLISKA\$YENIAKKWIPELTHYAPGVPIVLVGTL | DIRDD-KOFFFDHPGAVPITTNQGEELKKLIGSPYYIECSSSKTQQNVKAVVIDA |
| BN42385898 | (74) \$RG DVFLAFLSLISKA\$YENVSKKWIPELTHYAPGVPIVLVGTL | DIRDD-KOFFVDHPGAVPITTAQGBEUMKLIGAPSYLECSSLSSKQENVKGVIDA |
| BN42519337 | (74) \$RG DVFLAFLSLISKA\$YENIYKKWIPELKHYPASPIVLVGTL | DIRDD-KQFLKDHPGAA\$ITTAQGEELRKMGIAKYLECSSSKTQQNVKAVVIDT |
| BN42557868 | (88) \$RG DVFLAFLSLISRPSENIAKKWPPELRYAPNPVPIVLVGTL | DIRRED-KKFPMNYPGACTISTEQGEELRKKEIGALAYIECSSSKTQQNVKAVVIDA |
| BN433381801 | (76) \$RG DVFLFSLFSLVSRAS\$ENVYKKWIPELQHFAPGVPIVLVGTL | DIRDD-KOFFDNKHYLADHPGLSPVTTAQGEELRKIGATYIECSSSKTQQNVKAVIDS |
| BN44062474 | (76) \$RG DVFLFSLFSLVSRASYENVEKKWIPELQHFAPGVPIVLVGTL | DIRDD-KHYLADHPGLSPVTTAQGEELRKIGATYIECSSSKTQQNVKAVIDS |
| BN44504217 | (74) \$RG DVFLAFLSLISKA\$YENIAKKWIPELTHYAPGVPIVLVGTL | DIRDD-KOFFIDHPGAVPISTNQGEELKKLIGSPAYIECSSSKTQQNVKAVVIDA |
| BN45412825 | (74) \$RG DVFLAFLSLVSKASYENVSKKWPPELTHYAPGVPIVLVGTL | DIRDD-KOFFFVEHDPGAVPISTAQGEELKKVIGAPAYIECSAKTQQNVKAVVIDA |
| GM47124407 | (74) \$RG DVFLCYSLSISKA\$YENISKKWIPELRYAPNPVPIVLVGTL | DIRDD-KQFLIDHPGSARITTAQGEELKKMIGAVTYIECSSSKTQQNVKAVVIDA |
| GM47172047 | (74) \$RG DVFLAFLSLISKA\$YENISKKWIPELRYAPTPVPIVLVGTL | DIRDD-ROYLIDHPGTTA\$ATAQGEELKKAIGAAVYIECSSSKTQQNVKAVVIDA |
| GM48914268 | (74) \$RG DVFLAFLSLISKA\$YENIAKKWIPELTHYAPGVPIVLVGTL | DIRDD-KQFFMDHPGAVPITTAQGEELRKIGAPYIECSSSKTQQNVKAVVIDA |
| GM49711326 | (77) \$RG DVFLAFLSLVSRASYENVLKKWIPELQHFAPGVPIVLVGTL | DIRRED-KHYMADHPHSILVPVTTDQGEELRKHIGATYIECSSSKTQQNVKAVVIDA |
| GM50199916 | (74) \$RG DVFLAFLSLISRA\$YENVAKKWIPELTHYAPGVPIVLVGTL | DIRDD-KQFFQDHDPGAVPITTAQGEELRKIGAPYIECSSSKTQQNVKAVVIDA |
| GM50693528 | (74) \$RG DVFLAFLSLISKA\$YENVSKKWIPELKHYPAPGVPIVLVGTL | DIRDD-KQFCIDHPGAVPITTAQGEELRKLINAPAYIECSSSKTQQNVKAVVIDA |
| GM52260563 | (74) \$RG DVFLAFLSLISRA\$YENVAKKWIPELRYAPGVPIVLVGTL | DIRDD-KOFFQDHDPGAVPITTAQGEELRKIGAPYIECSSSKTQQNVKAVVIDA |
| OS30848846 | (75) \$RG DVFLAFLSLISRA\$YENVLKKMPELRRFAPNPVPIVLVGTL | DIRDH-RSYLADHAA\$AITTAQGEELRKQIGAAAYIECSSSKTQQNVKAVVIDT |
| OS325558796 | (101) YRG AAAVVYDITSPESFSKAQYWKELOQKHGSPDILMVLVGNA\$DHEN- | ---RHYS\$---OEAEQEAEKN-NMVFLETSAKTADNTNQVIE |
| OS3396403 | (76) \$RG DVFLAFLSLVSRASYENVMKWLPELQHYAPGVPIVLVGTL | DIRRED-KHYLLDHSILVPVTTAQGEELRKHIGATYIECSSSKTQQNVKAVVIDA |
| OS35505384 | (83) YRD DAALIVYDITDNDTFLRVTKWKELKQMANKDYMIAANISD\$D | ---KHDTNNEAASYAESIGATLFTS-AKAGTGDIDS |
| OS37807380 | (78) \$RG DVFLFSLFSLISRA\$YENVQKKMPELRRFAPGVPIVLVGTL | DIRRED-RAYLADHPASSIITTEQGEELRKIGAVAYIECSSSKTORNKAVVIDT |
| YNL090W | (75) \$SKADILIGFAVDNFESTINARTKWADEFALRYCPDAPIVLVGKRD | ---AHEKENATDEMVPIEDAKYVMECSALTGEYDDVEV |

BN41992996 (173) AIRVVLQPPQQKK---KKGGKV---QKACSL---
 BN42135991 (173) AIKVVLQPPSKKK---KKKN---KNRCVFL---
 BN42385898 (173) AIRVVLQPPQORK---KKSKA---QKACSL---
 BN42519337 (173) AIRVALRPPAKKK---IKPLRTKRSRTCF---
 BN42557868 (187) AIKVVLQPPTKIK---KQKRR---FRFCHAL---
 BN43381801 (176) AIKEVIKPVVKQKEKTKQQKS-NHGCLSNVLCGRIVTRH---
 BN44062474 (175) AIKEVIKPVLKOKGRTKRRKKQOSNHHGCLSNVLCGRIVTRH---
 BN44504217 (173) AIKVVLQPPQORK---KKK---KNGCVFL---
 BN45412825 (173) AIKVVLQPPKNNKR---KVRKS---QKACSL---
 GM47124407 (173) AIKVALKPPKPKKK---PR---KKRTCTFL---
 GM47172017 (173) AIKVVLQPPSKKK---GK---KKNTPCVFL---
 GM48914268 (173) AIKVVIQPPKLIK---KRKT---QKACSL---
 GM49741326 (176) AIRMVIKPPKONE---KIRKKPR---GCFINVLCRNIVRJK---
 GM50199916 (173) AIKVVLQPPSKKK---KKRG---QKACSL---
 GM50693528 (173) AIRVVLQPPQORK---KKGKA---QKACSL---
 GM52260563 (173) AIKVVLQPPQKK---KKRG---QKACSL---
 OS30848846 (174) AIKVVLQPPRGETTMARKTRRSTGCSLNLMGSACVY---
 OS32558796 (189) IAKRLPRPTAS---
 OS333960403 (175) AIKVVIKPPKQDR---KKKTRRGCSFFCKGMSRRRLVCFK---
 OS35505384 (171) IAKRLLERRNNS---DGEISLAHPKKGILIVDDEPEKEPPRCCS
 OS37807380 (177) AIKVVLQPPR---HKDVTRKQLOSSNRPVRYFCGSACFA---
 YNL090W (173) ATRTSLIMKKEPG---ANCCSL---